REMARKS/ARGUMENTS

Introduction

In accordance with the foregoing, claims 1, 8, 11, and 15 have been amended, and claims 16-19 are added. Claims 1-19 are pending in this application.

No new matter has been introduced in this amendment since all amendments are supported by the originally submitted specification, drawings, and claims.

Claims 1, 8, 11, and 15 have been objected to because of informalities. Claims 1, 8, 11, and 15 have been amended to correct the informalities.

Rejection under 35 USC §102

Claims 1, 2, 8, and 9

Claims 1, 2, 8, and 9 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mizuno, U.S. Patent No. 6,327,451 B1 (Mizuno). This rejection is traversed for at least the reasons stated below.

The Examiner asserted in the second paragraph on page 3 of the Office Action mailed on May 3, 2005, that Mizuno discloses a development device used with an electrophotographic image-forming device having a photosensitive drum 210a, the development device including a development roller 20a which supplies toner T to the photosensitive drum having an electrostatic latent image formed thereon, a reset roller 10a which is also called a supply roller or application roller which supplies the toner to the development roller, and a bias power supply 50a which applies a developing bias and a supplying bias formed by overlapping a DC potential 52a on AC potential 54a to the development roller and the reset roller, respectively, wherein the bias power supply applies a first electric field to the development roller and the reset roller so that the toner is supplied to the development roller when a developing operation is performed, and applies a second electric filed to the development roller and the reset roller so that the toner is removed from the development roller when the development operation is not performed, by varying the developing bias and the supplying bias.

Claim 1 has been amended to recite *inter alia*, a power supplying unit which varies the developing bias and the supplying bias simultaneously according to a first wave pattern to generate a first electric field to be applied to the toner transfer body and the supplying member to supply the toner to the toner transfer body when a development operation is performed, and varies the developing bias and the supply bias simultaneously according to a second wave pattern to generate a second electric field to be applied to the toner transfer body and the supplying member to remove the toner from the toner transfer body when the development operation is not performed.

Mizuno discloses the bias power supply 50a applying a developing bias and a supplying bias formed by overlapping a DC potential 52a on AC potential 54a to the development roller 20a and the reset roller 10a, respectively. Although Mizuno discloses that the toner is deposited on the development roller by electrostatic adsorption, the bias power supply 50a of Mizuno does not vary the developing bias and the supplying bias simultaneously according to predetermined wave patterns to generate electric fields to supply the toner to the development roller and to remove the toner from the development roller.

Since Mizuno fails to disclose Applicant's power supplying unit varying of the developing bias and the supplying bias according to a first wave pattern to create a first electric field and the varying of the developing bias and varying the developing bias and the supplying bias according to a second wave pattern to generate a second electric field, as presently recited, it is respectfully submitted that claim 1 is patentably distinguishable from Mizuno. Therefore, claim 1 is deemed to be allowable.

Regarding claim 2, the Examiner asserts that Mizuno discloses that the developing bias and the supplying bias have the same frequency, are synchronized with each other, and have the same duty ratio.

Although Mizuno discloses that a voltage having the same waveform as a voltage applied to the development roller 20a is applied to the reset roller 10a, Mizuno fails to disclose the duty ratios of the voltages being the same. Moreover, the duty ratios of the voltages are not mentioned anywhere in Mizuno. Since Mizuno fails to disclose Applicant's developing bias and the supplying bias having the same duty ratio, as recited in claim 2, it is respectfully submitted that claim 2 is patentably distinguishable from Mizuno at least due to dependency from allowable claim 1. Therefore, claim 2 is deemed to be allowable.

Claim 8 has been amended to recite *inter alia*, supplying toner from the supplying member to the toner transfer body by varying the developing bias and the supplying bias simultaneously according to a first wave pattern to apply a first electric field to the toner transfer body and the supplying member, and removing the toner from the toner transfer body by varying the developing bias and the supplying bias simultaneously according to a second wave pattern to apply a second electric field to the toner transfer body and the supplying member.

Mizuno discloses the reset roller 10a supplying the toner to the development roller 50a and removing the toner from the development roller. Mizuno also discloses that the toner is deposited on the development roller by electrostatic adsorption, and removed from the development roller by being scraped off by the reset roller. However, Mizuno fails to disclose Applicant's method of supplying the toner to the development roller by varying the bias of the development roller and the bias of the reset roller simultaneously according to a first wave pattern to create a first electric field, and removing the toner from the development roller by varying the bias of the development roller and the bias of the reset roller simultaneously according to a second wave pattern to generate a second electric field.

Since Mizuno fails to disclose the Applicant's method of varying of a developing bias and a supplying bias simultaneously according to a first wave pattern to generate a first electric field, and the varying of the developing bias and the supplying bias according to a second wave pattern to generate a second electric field, as presently recited, it is respectfully submitted that claim 8 is patentably distinguishable from Mizuno. Therefore, claim 8 is deemed to be allowable.

Regarding claim 9, the Examiner asserts that Mizuno discloses that the developing bias and the supplying bias have the same frequency, are synchronized with each other, and have the same duty ratio.

Although Mizuno discloses that a voltage having the same waveform as a voltage applied to the development roller 20a is applied to the reset roller 10a, Mizuno fails to disclose the duty ratios of the voltages being the same. Moreover, the duty ratios of the voltages are not mentioned anywhere in Mizuno. Since Mizuno fails to disclose the Applicant's developing bias and supplying bias having the same duty ratio, it is respectfully submitted that claim 9 is patentably distinguishable from Mizuno at least due to dependency from allowable claim 8. Therefore, claim 9 is deemed to be allowable.

In view of the above points provided by the Applicant, withdrawal of the rejection of claims 1, 2, 8, and 9 is respectfully requested, and allowance of these claims is earnestly solicited.

Claim 15

Claim 15 is rejected under 35 U.S.C. § 102(b) as being anticipated by Sakai et al., U.S. Patent No. 6,353720 B1 (Sakai et al.). This rejection is traversed for at least the reasons stated below.

The examiner asserted that Sakai et al. discloses a developing device 4 used with an image forming apparatus, including a developing roller 41 including a developing roller, a supplying roller 42, and a voltage control circuit 51 including power source circuits 11 and 12 for generating a first bias between the developing roller and the supplying roller to attach toner to the developing roller, and a second bias between the developing roller and the supplying roller to remove toner from the developing roller.

Claim 15 has been amended to recite *inter alia*, simultaneously adjusting at least one of a duty ratio and a level of a developing bias and a supplying bias formed by overlapping a DC potential on an AC potential and supplied to the toner transfer body and the supplying member, respectively.

Although Sakai et al. discloses the voltage control circuit 51 including the power source circuits 11 and 12 generating bias voltages Va and Vb applied to the developing roller 41 and the supplying roller 42, respectively, Sakai et al. does not disclose the Applicant's developing bias and supplying bias formed by overlapping a DC potential on an AC potential, as presently recited in claim 15. In addition, Sakai et al. fails to disclose a duty ratio or a level of the bias voltages being simultaneously adjusted, as presently recited. In fact, Sakai et al. discloses varying the bias voltage Vb of the supplying roller without varying the bias voltage Va of the developing roller.

Since Sakai et al. fails to disclose a power supplying unit forming a developing bias and a supplying bias being by overlapping a DC potential on an AC potential and simultaneously adjusting one of a duty ratio and a level of the developing bias and the supplying bias, as presently recited, it is respectfully submitted that claim 15 is patentably distinguishable from Sakai et al. Therefore, claim 15 is deemed to be allowable.

In view of the above points provided by the Applicant, withdrawal of the rejection of claim 15 is respectfully requested, and allowance of this claim is earnestly solicited.

Conclusion

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in a condition of allowance.

No Fee has been incurred by this Amendment.

If any further fees are required in connection with the filing of this Amendment, please charge the same to our deposit account number 502827.

Should any questions remain unresolved, the Examiner is respectfully requested to telephone Applicant's attorney.

Respectfully submitted,

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